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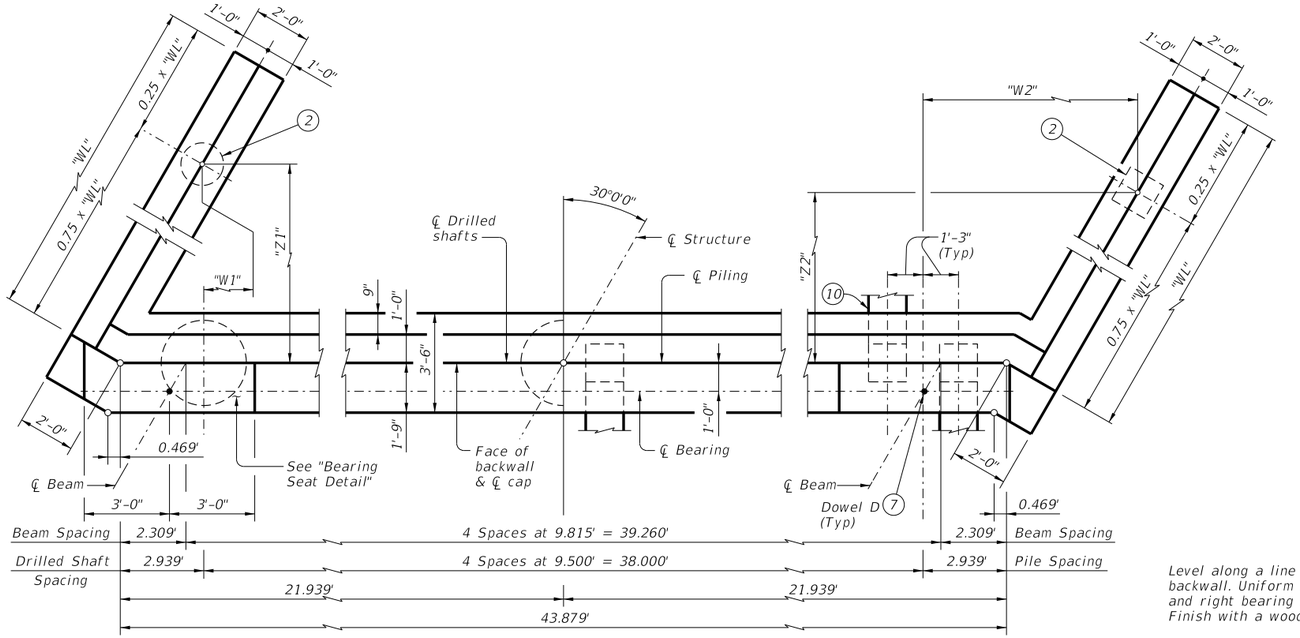
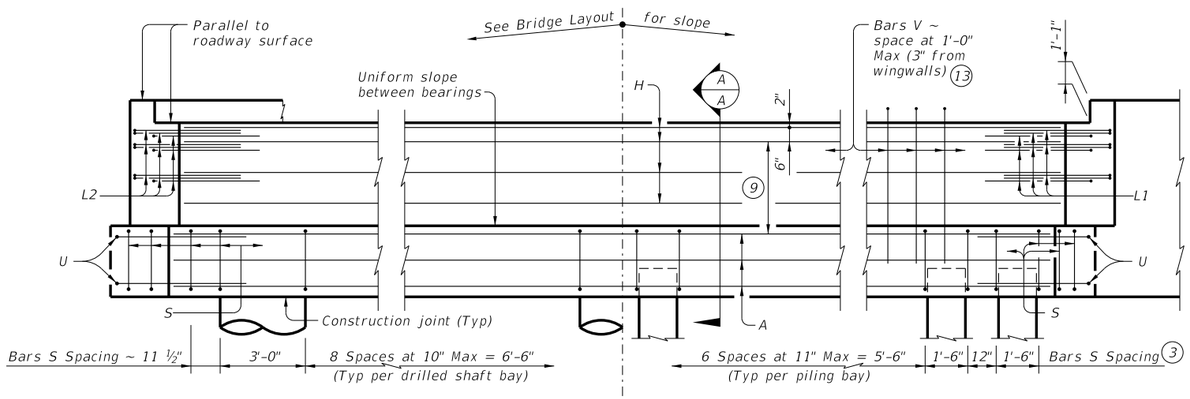


SHOWING DRILLED SHAFTS — SHOWING PILES

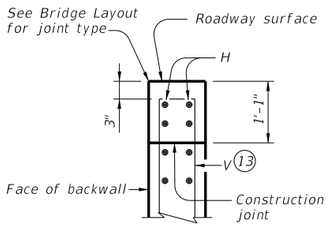
PLAN (1)



SHOWING DRILLED SHAFTS — SHOWING PILES

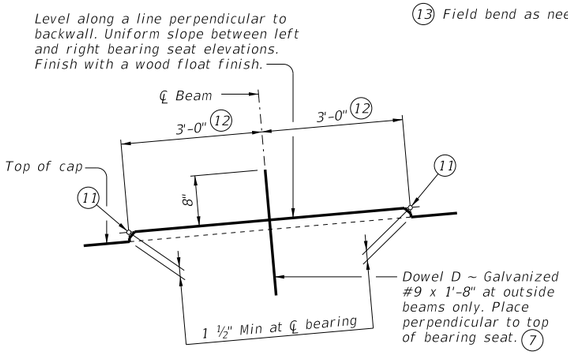
ELEVATION

TABLE A							
Header Slope	Beam Type	Wingwall Type	Wingwall Length "WL"	"W1"	"Z1"	"W2"	"Z2"
2:1	XB20	Cantilevered	9.000'	Not Applicable			
	XB28	Cantilevered	10.000'				
	XB34	Cantilevered	11.000'				
	XB40	Cantilevered	12.000'				
3:1	XB20	Cantilevered	12.000'	Not Applicable			
	XB28	Founded	15.000'	1.820'	10.243'	9.430'	9.243'
	XB34	Founded	16.000'	2.195'	10.892'	9.805'	9.892'
	XB40	Founded	18.000'	2.945'	12.191'	10.555'	11.191'



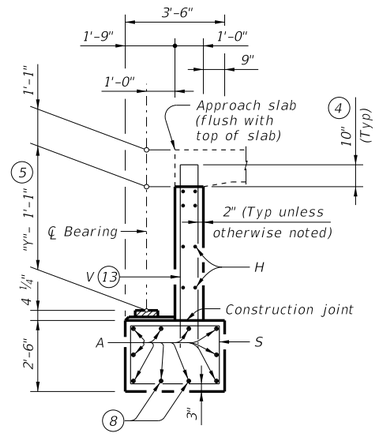
BACKWALL DETAIL

(Without approach slab) 6



BEARING SEAT DETAIL

(Remove all loose material and clean bearing surface before placing the bearing pad.)



SECTION A-A

(With approach slab) 6

1. See Table A for variable dimensions based on header slope and beam type.
2. See Table A to determine if wingwall foundations are required.
3. For piling larger than 16" adjust Bars S spacing as required to avoid piling.
4. Increase as required to maintain 3" from finished grade.
5. See Span Details for "Y" value.
6. See Bridge Layout to determine if approach slab is present.
7. Omit Dowels D at end of multi-span unit. Adjust reinforcing steel total accordingly.
8. With pile foundations, move Bars A shown to clear piles.
9. Spacing based on beam type:
   XB20 ~ 2 spaces at 1'-0" Max
   XB28 ~ 3 spaces at 1'-0" Max
   XB34 ~ 3 spaces at 1'-0" Max
   XB40 ~ 3 spaces at 1'-0" Max
10. See Detail A on Common Foundation Details (FD) standard.
11. Right and left elevations and locations are provided elsewhere.
12. Measured along ℄ of bearing.
13. Field bend as needed to clear piles.

TABLE OF FOUNDATION LOADS		
Span Length	Drilled Shaft Load	Battered Pile Load
Ft	Tons/DS	Tons/Pile
40	56	47
45	60	49
50	64	51
55	68	53
60	72	55
65	76	57
70	79	59
75	83	61
80	87	63
85	90	64
90	94	66
95	98	68
100	101	70
105	105	72

MATERIAL NOTES:

Provide Class C concrete (f'c = 3,600 psi.)
Provide Class C (HPC) concrete if shown elsewhere in the plans.
Provide Grade 60 reinforcing steel.
Galvanize dowel bars D.

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
See Bridge Layout for header slope and foundation type, size and length.
See Common Foundation Details (FD) standard for all foundation details and notes.
See Concrete Riprap (CRR) standard sheet or Stone Riprap (SRR) standard sheet for riprap attachment details, if applicable.
See Shear Key Details (XBSK) standard sheet for all shear key details and notes if applicable.
See applicable rail details for rail anchorage details in wingwalls.
Details are drawn showing right forward skew. See Bridge Layout for actual skew direction.
These abutment details may be used with standard SXB-40-30 only.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.

HL93 LOADING — SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

ABUTMENTS
PRESTR CONC X-BEAMS
(TYPE 5XB20 THROUGH 5XB40)
40' ROADWAY 30° SKEW
AXB-40-30

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©TxDOT August 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS				
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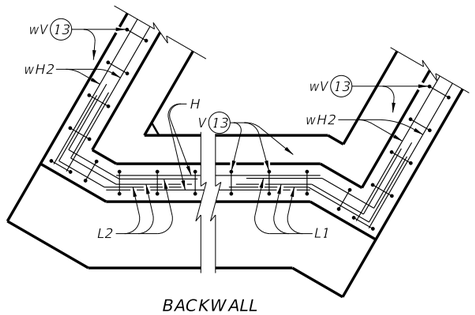
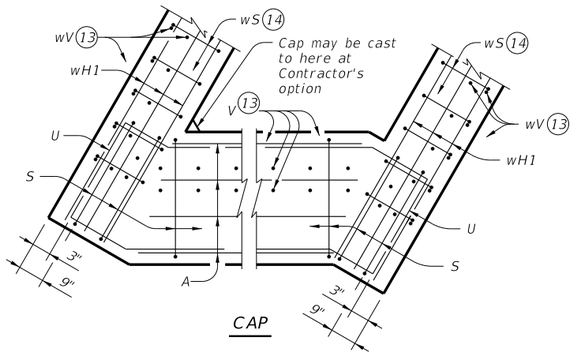
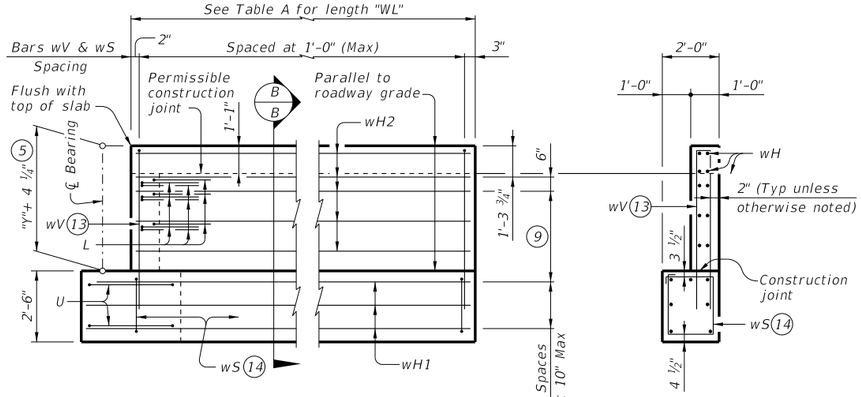


BACKWALL



CAP

CORNER DETAILS



WINGWALL ELEVATION

SECTION B-B

(5) See Span Details for "Y" value.

(7) Omit Dowels D at end of multi-span unit. Adjust reinforcing steel total accordingly.

(9) Spacing based on beam type:
XB20 ~ 2 spaces at 1'-0" Max
XB28 ~ 3 spaces at 1'-0" Max
XB34 ~ 3 spaces at 1'-0" Max
XB40 ~ 3 spaces at 1'-0" Max

(13) Field bend as needed to clear piles.

(14) Adjust as required to avoid piling.

(15) Quantities shown are for one abutment only (with approach slab.) With no approach slab, add 1.8 CY Class C concrete and 264 lbs of reinforcing steel for 4 additional H bars.

TABLES OF ESTIMATED QUANTITIES WITH 2:1 HEADER SLOPE (15)

TYPE 5XB20 BEAMS

Bar	No.	Size	Length	Weight
A	10	#11	43'-11"	2,333
D (7)	2	#9	1'-8"	11
H	6	#6	43'-11"	396
L1	9	#6	5'-11"	80
L2	9	#6	5'-9"	78
S	44	#5	11'-6"	528
U	4	#6	11'-7"	70
V	47	#5	10'-1"	494
wH1	14	#6	10'-5"	219
wH2	16	#6	8'-8"	208
wS	20	#4	7'-10"	105
wV	20	#5	10'-1"	210
Reinforcing Steel		Lb		4,732
Class "C" Concrete		CY		23.7

TYPE 5XB28 BEAMS

Bar	No.	Size	Length	Weight
A	10	#11	43'-11"	2,333
D (7)	2	#9	1'-8"	11
H	8	#6	43'-11"	528
L1	9	#6	5'-11"	80
L2	9	#6	5'-9"	78
S	44	#5	11'-6"	528
U	4	#6	11'-7"	70
V	47	#5	11'-5"	560
wH1	14	#6	11'-5"	240
wH2	20	#6	9'-8"	290
wS	22	#4	7'-10"	115
wV	22	#5	11'-5"	262
Reinforcing Steel		Lb		5,095
Class "C" Concrete		CY		26.0

TYPE 5XB34 BEAMS

Bar	No.	Size	Length	Weight
A	10	#11	43'-11"	2,333
D (7)	2	#9	1'-8"	11
H	8	#6	43'-11"	528
L1	9	#6	5'-11"	80
L2	9	#6	5'-9"	78
S	44	#5	11'-6"	528
U	4	#6	11'-7"	70
V	47	#5	12'-5"	609
wH1	14	#6	12'-5"	261
wH2	20	#6	10'-8"	320
wS	24	#4	7'-10"	126
wV	24	#5	12'-5"	311
Reinforcing Steel		Lb		5,255
Class "C" Concrete		CY		27.9

TYPE 5XB40 BEAMS

Bar	No.	Size	Length	Weight
A	10	#11	43'-11"	2,333
D (7)	2	#9	1'-8"	11
H	8	#6	43'-11"	528
L1	9	#6	5'-11"	80
L2	9	#6	5'-9"	78
S	44	#5	11'-6"	528
U	4	#6	11'-7"	70
V	47	#5	13'-5"	658
wH1	14	#6	13'-5"	282
wH2	20	#6	11'-8"	350
wS	26	#4	7'-10"	136
wV	26	#5	13'-5"	364
Reinforcing Steel		Lb		5,418
Class "C" Concrete		CY		29.8

TABLES OF ESTIMATED QUANTITIES WITH 3:1 HEADER SLOPE (15)

TYPE 5XB20 BEAMS

Bar	No.	Size	Length	Weight
A	10	#11	43'-11"	2,333
D (7)	2	#9	1'-8"	11
H	6	#6	43'-11"	396
L1	9	#6	5'-11"	80
L2	9	#6	5'-9"	78
S	44	#5	11'-6"	528
U	4	#6	11'-7"	70
V	47	#5	10'-1"	494
wH1	14	#6	13'-5"	282
wH2	16	#6	11'-8"	280
wS	26	#4	7'-10"	136
wV	26	#5	10'-1"	273
Reinforcing Steel		Lb		4,961
Class "C" Concrete		CY		25.5

TYPE 5XB28 BEAMS

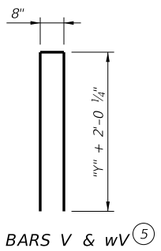
Bar	No.	Size	Length	Weight
A	10	#11	43'-11"	2,333
D (7)	2	#9	1'-8"	11
H	8	#6	43'-11"	528
L1	9	#6	5'-11"	80
L2	9	#6	5'-9"	78
S	44	#5	11'-6"	528
U	4	#6	11'-7"	70
V	47	#5	11'-5"	560
wH1	14	#6	16'-5"	345
wH2	20	#6	14'-8"	441
wS	32	#4	7'-10"	167
wV	32	#5	11'-5"	381
Reinforcing Steel		Lb		5,522
Class "C" Concrete		CY		29.1

TYPE 5XB34 BEAMS

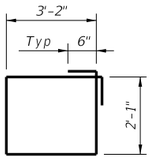
Bar	No.	Size	Length	Weight
A	10	#11	43'-11"	2,333
D (7)	2	#9	1'-8"	11
H	8	#6	43'-11"	528
L1	9	#6	5'-11"	80
L2	9	#6	5'-9"	78
S	44	#5	11'-6"	528
U	4	#6	11'-7"	70
V	47	#5	12'-5"	609
wH1	14	#6	17'-5"	366
wH2	20	#6	15'-8"	471
wS	34	#4	7'-10"	178
wV	34	#5	12'-5"	440
Reinforcing Steel		Lb		5,692
Class "C" Concrete		CY		31.3

TYPE 5XB40 BEAMS

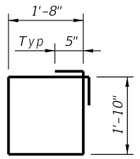
Bar	No.	Size	Length	Weight
A	10	#11	43'-11"	2,333
D (7)	2	#9	1'-8"	11
H	8	#6	43'-11"	528
L1	9	#6	5'-11"	80
L2	9	#6	5'-9"	78
S	44	#5	11'-6"	528
U	4	#6	11'-7"	70
V	47	#5	13'-5"	658
wH1	14	#6	19'-5"	408
wH2	20	#6	17'-8"	531
wS	38	#4	7'-10"	199
wV	38	#5	13'-5"	532
Reinforcing Steel		Lb		5,956
Class "C" Concrete		CY		34.1



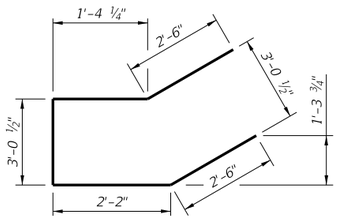
BARS V & wV (5)



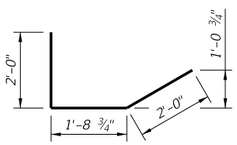
BARS S



BARS wS



BARS U



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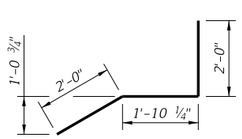

BARS L1

HL93 LOADING

SHEET 2 OF 2

Texas Department of Transportation

Bridge Division Standard

ABUTMENTS
PRESTR CONC X-BEAMS
(TYPE 5XB20 THROUGH 5XB40)
40' ROADWAY 30° SKEW
AXB-40-30

FILE: XB-AXB4030-22.dgn	ON: BMP	CK: EFC	DW: JER	CK: BMP
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REVISIONS				
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